

# NEWSLETTER

**society for invertebrate pathology**

---

VOLUME 24, NUMBER 1  
January 1992

---



**25TH ANNUAL MEETING  
OF THE  
SOCIETY FOR INVERTEBRATE PATHOLOGY  
AUGUST 16 - 21, 1992  
HEIDELBERG, GERMANY**

We are pleased to announce the 25th Annual Meeting of the Society for Invertebrate Pathology in 1992 which will be held in Heidelberg, Germany. It is the first time in the history of SIP that the Annual Meeting will be held outside North America.

The meeting will be organized jointly by the Institute for Biological Control of the Federal Biological Research Centre for Agriculture and Forestry (Jürg Huber, Gisbert Zimmermann), by the University of Heidelberg, Institute for Zoology (Wolfgang Schnetter) and by the German Mosquito Control Association, KABS (Norbert Becker).

In many aspects, Heidelberg is a place of particular interest. It accommodates the "Ruperto Carola" University, founded in 1386, which is the oldest and still one of the most popular universities in Germany. Presently, more than 30,000 students are enrolled.

Collaborating with the university, many other research institutes are based in Heidelberg: amongst others, the Heidelberg Academy of Sciences, the German Cancer Research Center, the European Laboratory for Molecular Biology, and several Max Planck Institutes, such as the famous Institute for Medical Research. Attracted by such a concentration of scientific potential, many German companies have established their research institutes in Heidelberg.

## IMPORTANT ANNOUNCEMENT

Because the program and abstract booklet will be assembled in Germany, but printed and distributed by FASEB in the United States, we must allow more time than usual between assembly and printing. **The deadline of April 1, 1992 for receipt of abstracts is a REAL deadline!** SIP members are traditionally relaxed about observing deadlines for abstracts, and in the past abstracts have been accepted well beyond the deadline. **NOT THIS YEAR!** **If your abstract does not arrive in Heidelberg by April 1, your abstract will not appear in the abstract booklet.** If your abstract is late, be prepared to present a poster.

Heidelberg is also a major tourist attraction. The combination of its unique location at the banks of the Neckar River, the medieval town center and the castle, makes it one of the most beautiful cities in Germany. In addition, it is within easy reach of the river Rhine, with its romantic old castles, charming towns, and tasty white wines.

Thus, Heidelberg and its surroundings offer just the right setting to celebrate the 25th anniversary of SIP.

#### What is going on?

A busy scientific program is planned, covering all aspects of invertebrate pathology. It will consist of organized symposia of invited papers, sessions of contributed papers, and posters. More than a dozen symposia are being organized on the following topics: *Bacillus sphaericus*; Microbial control of scarab beetles; *Serratia* infections in insects; Advances in formulation and application technology for microbial pesticides; Genetic engineering of microbials; Pathogens of locusts; Standardization and quality control of *Bacillus thuringiensis* and other microbial pesticides; Immunology of invertebrates; Entomopathogenic nematodes; Marine invertebrate pathology; *Bacillus thuringiensis*: receptors and specificity; Mechanism of infection by entomopathogenic fungi: recognition, attachment, penetration, and post penetration responses; Mode of action of insect pathogens in the midgut; Bee pathogens; Microbial control of vectors. Appropriate contributed papers will follow each symposium and facilities for displaying posters will be available nearby. A special poster exhibition to illustrate the history of SIP is planned.

As every year, there will be a student paper competition. Students who wish their presentation to be entered into the competition should indicate so on the abstract form.

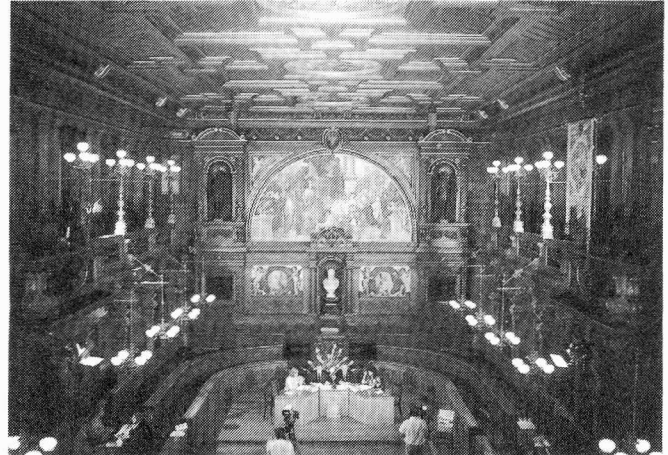
Since there will be several concurrent sessions in different lecture rooms, it is planned to have a plenary session every morning, in which a selected review paper from each symposium will be presented. Thus, the delegates will meet together at least once a day before they split up into different sections and symposia. The plenary session will also enable them to be informed about what is going on in other research areas.

On Sunday, a registration desk will be set up in the Penta Hotel in Heidelberg. This hotel is connected to the Frankfurt Airport by an hourly bus service, and is not too far from the Heidelberg main railway station (about 15 min. by foot).

Before the official opening of the conference on Monday morning, we will have already come together during a mixer on Sunday evening, also at the Penta Hotel.

On Monday evening there will be workshops organized by the Microbial Control and the Microsporidia divisions.

On Tuesday evening, we will listen to a special lecture celebrating the 25th anniversary of SIP. This shall take place in the beautiful "Alte Aula," the historical auditorium of the old University of Heidelberg, which is located at the very heart of the ancient town.



The "Alte Aula":  
Historical Auditorium at the University of Heidelberg

On Wednesday morning, the 5-K race will take place. It will lead us on a small footpath along the Neckar River. Afterwards, we can recover during a boat trip, which will carry us upstream through the beautiful Neckar Valley. Lunch will be served on board. For those who like to take some exercise, a climb up to the medieval town of Dilsberg, situated on top of a hill above the Neckar River is suggested.

Thursday will take us back to science and business. The SIP Business Meeting will be held during the second half of the morning. In the evening there will be the famous SIP Banquet. We were able to book a place high up on the hillside above Heidelberg, accessible by cable car from the old town center. Weather permitting, we will dine outside on the terrace, enjoying the sunset and the beautiful view to the Rhine and Neckar Valley. Since space is limited, be sure to book early for this event.

#### How can we submit papers?

In addition to the invited papers of the symposia, papers for the Contributed Paper Sessions and Poster Sessions are being solicited. Those who intend to present papers are urged to prepare their presentations so that they do not exceed the 15 minutes allotted per paper, including the discussion. Projection facilities for standard 2" x 2" (5 x 5 cm) slides and overhead transparencies will be available. Speakers requiring special projection equipment should notify the Congress Secretary at the time the abstracts are

submitted. The boards for posters will be 1.5 meters high and 1 meter wide.

A guide for preparing abstracts is enclosed with this issue of the Newsletter. Instructions are printed on the reverse; please follow them carefully.

#### **What are the deadlines?**

The deadline for submission of abstracts is April 1. Abstracts arriving after this date can no longer be included in the proceedings. Such a relatively early deadline is necessary to make sure that you will receive the proceedings by mail before the meeting takes place. Registration and payment of the registration fee should be made before June 30, using the enclosed registration form. After this date we have to ask for a late registration fee amounting to US \$45.

It is recommended to register for hotel rooms as soon as possible. August is a high tourist season in Heidelberg.

#### **Where will we stay?**

The Institute for Zoology of the University of Heidelberg is located in the "Neuenheimer Feld" on the northern outskirts of the city.

Since the University, as most other German universities, does not have on-campus housing for the students, there will be no dormitories available for accommodation. Instead we will lodge in local hotels in the old part of Heidelberg.

The hotel closest to the Institute of Zoology is the Penta Hotel (located directly on the river Neckar, approximately one mile away from the lecture halls). Unfortunately, it is one of the most expensive hotels in Heidelberg with prices ranging from US \$150 up to US \$200.

The other hotels are in the old center of the city, which is about two miles away from the university campus. However, there is an excellent public transport by tramway or bus, and commuter tickets are available.

Room reservations will be handled by the Heidelberg Tourist Office. Please use the attached registration cards for ordering rooms. Participants, who prefer to personally book their rooms, can write to the SIP Congress Secretariat for information about the various hotels.

Staying in hotels in town provides our families and companions the advantage of being close to all tourist facilities. If we are not too wearied from our work, we can join them in the evening to stroll through the lively streets of the old town.

#### **What can our families and companions do during the time we talk science?**

The old town of Heidelberg already represents a big attraction on its own. You can spend hours walking through

the narrow streets, admiring the beautiful houses and shops. Many other tourist attractions are within easy walking distance, the most famous being Heidelberg Castle. It is located on a hillside overlooking the town, and it harbors among other attractions, the world's largest wine barrel and a fascinating pharmaceutical museum with alchemistic equipment from medieval times. In addition to this, the tourist office will assist you in booking full or half-day excursions into the neighborhood.

#### **What can we do before or after the meeting?**

If one week of science is not enough, you may visit the Institute for Biological Control at Darmstadt. Its specialists in insect pathology were involved in the discovery of pathogens such as *Bacillus thuringiensis* subsp. *tenebrionis*, and the nonoccluded baculovirus of *Oryctes*. Darmstadt is situated half way between Heidelberg and Frankfurt Airport.

Of course, you should not leave Germany without having visited some of its most famous attractions, all within easy driving distance. Among them are the picturesque medieval town of Rothenburg, Schwetzingen Castle with its beautiful garden or, if you prefer nature, the woody hills of the Black Forest. All these trips may be booked at local travel agencies or at your hotel during the meeting.

Almost mandatory is a boat trip on the River Rhine between the towns of Rudesheim and Koblenz. On this half-day trip you will pass dozens of old castles, situated high above the rocky slopes and vineyards of the Rhine Valley. Time permitting, you can even continue your journey up the Mosel Valley.

Now that the "Iron Curtain" has fallen and Germany is unified, you also have the chance to visit the famous towns of former East Germany such as Weimar, Dresden, (East-) Berlin, and Potsdam.

#### **How do we get to Heidelberg?**

Heidelberg is about a one hour drive (50 miles) south of Frankfurt Airport, the "Gateway to Europe." As already mentioned, there is an airline bus service at the airport which will bring you directly to the Penta Hotel at Heidelberg. The buses leave at least once every hour. Additionally, Heidelberg can easily be reached by train.

#### **How will the weather be?**

This is, hopefully, one of the few unpredictable things about this meeting. However the chances to have fine weather are rather good, since August in one of the months with the lowest amount of rain and the highest amount of sunshine during the year. Although the temperature can reach 30° C (86° F), it usually stays at a comfortable 20-25° C (68-77° F). As a precaution, it is advisable to be prepared also for occasional cold and rainy weather.

**Where can we get further information?**

If this information was not enough to make you call your travel agent and start preparing your abstract, please contact:

SIP Congress Secretariat  
KABS, Kreisverwaltung Ludwigshafen  
Europaplatz 5  
P.O. Box 210 780  
D-6700 Ludwigshafen, Germany

We look forward to seeing you all at Heidelberg.  
The Organizing Committee.

**ANNOUNCEMENT****SPECIAL CONFERENCE ON NATURAL AND DERIVED PEST MANAGEMENT SYSTEMS**

The American Chemical Society, Division of Agrochemicals is sponsoring the special symposium on pest management at Snowbird, Utah, August 9-14, 1992. A number of topics will be discussed including pesticides developed from natural plant products, peptides and neuropeptides as pesticides, and natural and genetically engineered viral pesticides. Other sessions will deal with the computer aided design of pesticides and registration of biologically based pesticides. For more information or registration material contact Dr. Paul A. Hedin, USDA, Box 5367, Mississippi State, MS 39762, phone (601) 323-2230.

**ON THE MOVE**

**Sothorn Prasertphon** and his family have returned to Thailand after more than a decade of service to the World Health Organization in Kaduna, Nigeria. So's new address is:

Dr. Sothorn Prasertphon  
9/59 Ban Engadoy  
Ladda Land Road  
Chiang Mai 50 000  
THAILAND

**James J. Becnel** has recently accepted a position as Research Entomologist with the USDA Medical and Veterinary Entomology Laboratory, in Gainesville, Florida. Jim has been employed by the ARS since 1981 conducting research on pathogens of mosquitoes with emphasis on microsporidia. The emphasis of his new position will be on fungi, bacteria and microsporidia as part of an integrated systems approach to the biological control of container-inhabiting mosquitoes. Jim received his Ph.D. in

entomology from the University of Florida in 1989. His address will remain the same:

Dr. James J. Becnel  
MVERL  
USDA, ARS  
P.O. Box 14565  
Gainesville, FL 32608 USA

**RETIREMENTS**

A Founding Member of the Society for Invertebrate Pathology, **Albert K. Sparks**, retired January 3, 1991 after 21 years of US Federal service. Al received the BS, MS and PhD degrees from Texas A & M University, and was director of that University's Project 23 which studied the physical and biological oceanographic

characteristics of the Gulf of Mexico. During the course of this project, Al was first exposed to diseases of oysters, which "infected" his professional life until retirement. In 1958 he was appointed Director of the aquaculture program at the University of Washington, where he organized a research team focused on molluscan infectious and noninfectious diseases, genetics, biology, and enhancement. In 1971 Al became director of the Galveston, Texas, laboratory of the Bureau of Commercial Fisheries, where he began a pilot program on commercial shrimp aquaculture which became a model for similar programs throughout the world. He served as Deputy Director and Director of Resource Management for the National Marine Fisheries Service, in Washington, DC, from 1971 through 1976. Finally, Al returned to the laboratory in 1976 as leader of the Fisheries Resource Pathology Task, based at the National Marine Fisheries Laboratory in Seattle, Washington, which position he has held until his retirement. Al's publication record spans nearly 40 years and includes 84 papers focusing on the diseases of fish, shrimp, oysters, clams and North Pacific crabs. He is the author of two books on invertebrate pathology, as well as author of several book chapters.

Al Sparks' contributions to the Society for Invertebrate Pathology have been many. He hosted and was a member of the organizing committee which met in Seattle to discuss founding the Society, and served as its second President. He served on the Editorial Board of the Journal of Invertebrate Pathology from 1965 to 1969 and from 1980 to 1982. He hosted the 1980 Annual Meeting in Seattle. Until 1989, Al

had attended ALL SIP meetings, even when we met more than once during the year.

Al and his wife, Pat, are remaining in their home in Seattle, where their address is:

9629 42nd Ave. NE  
Seattle, Washington 98115  
Phone: 206-523-3494.

**Gordon R. Stairs** will retire from the Department of Entomology, Ohio State University, on February 28, 1992. Gordon received the B.Sc. degree from the University of New Brunswick and the M.Sc. and Ph.D. degrees from McGill University. Following 13 years service to the Insect Pathology Research Institute in Sault Ste. Marie, Ontario, Canada, Gordon joined the Ohio State faculty in 1965. His research interests include natural regulation of insect populations, virus diseases of insects and development of viruses as insecticides, epizootiology, and biology and control of forest insects. A charter member of SIP, Gordon has served on the JIP Editorial Board, and was Treasurer 1975-1977.

Gordon will be appointed Professor Emeritus, and will continue studies on virus diseases of Lepidoptera and insects affecting seed production in pine species. He will also teach part-time at Cedarville College in Ohio. Gordon and his wife, Carol, are looking forward to travel and visits with their four children and eleven grandchildren. One of their daughters, Debbie Jaworski, received the Ph.D. in Entomology from OSU and now lives in Moscow, USSR.

**Milos Kucera** retired January 1, 1992 from his position as Head of The Department of Insect Pathology of the Institute of Entomology, Czechoslovak Academy of Sciences, which post he has held since 1986. Milos received the Ph.D. degree from the Institute of Entomology at the Czech Academy. He has received the Award of the Collegium of Biology, CSAV (1968, 1972



and 1986) and the Award of the Presidium of the Czech Academy of Sciences in 1982. He served as a member of the Editorial Board of the JIP from 1983 through 1987. Milos wishes to express his thanks to all of you who have contributed to the Endowment, which has supported his membership in SIP.

The Kucera family will travel to the United States in early 1992 to visit with their children and grandchild in California and New Jersey.

Upon their return, Milos plans to be busy studying literature, the history of art and music, and doing some painting. His address will be:

Dr. Milos Kucera  
Netolicka 16  
37012 C. Budejovice  
CZECHOSLOVAKIA.

#### LABORATORY PROFILE

The **Entomopathogenic Bacteria** research unit of **Institut Pasteur** in Paris is directed by **Professor Huguette de Barjac**, who is perhaps best known for development of the H-antigen or flagellar antigen serotyping scheme for *Bacillus thuringiensis* and *Bacillus sphaericus* strains which is universally used in classification of these bacteria. Professor de Barjac received degrees in Pharmacy from the University of Paris, in Bacteriology, Immunology and Serology, and Soil Microbiology from the Institut Pasteur, and in General Biology and General Geology from the Sorbonne. She received the PhD from the Sorbonne. Prof. de Barjac has received many awards, including the Gold Medal Louis Pasteur Prize from the French Academy of Sciences and the Knight of the Legion of Honor. Her involvement with insecticidal bacteria spans over 30 years and more than 160 publications.

Other professional scientists in the laboratory include **Jeff Charles**, Research Scientist with interests in toxins of entomopathogenic bacteria, their biochemistry, mode of action and ultrastructural effects. **Isabelle Thiery**, Engineer, is involved with bioassay, screening, standardization and biochemistry of toxins. **Luc Nicolas**, Research Scientist, studies entomopathic toxins and their molecular biology, genetics and biochemistry, while **P. Laurent**, also Research Scientist, studies the effects of these toxins on cultured cells. Currently two graduate students, **C. Leroux-Nielsen** and **O. Ravoahangimalala**, are studying mode of action of BTI and *B. sphaericus* on mosquito larvae.

The major emphases of research in this laboratory include isolation, identification and classification of spore-forming bacteria, screening of isolates against Diptera and Lepidoptera larvae for selection of more potent strains, standardization of bacterial products, and characterization, cytopathology and mode of action of entomocidal bacterial proteins. The laboratory performs serotyping of *B. thuringiensis*, *B. sphaericus* and *Clostridium bifermentans* strains. Small scale fermentation is also undertaken, as well as safety testing of insect pathogenic bacteria. Recent publications have described activity ratios for mosquitoes of *B. sphaericus* strains (1989; Appl. Microbiol. Biotechnol. 31:577-581), genetic studies of BTI (1991, J. Bacteriol. 173:

3374-3381), selection of Cyanobacteria as food sources for mosquito larvae (1991, *Appl. Environ. Microbiol.* 57:1354-1359), fatty acid analysis as a predictor of insecticidal activity in *B. sphaericus* (1991, *Appl. Environ. Microbiol.* 57: 3394-3398), new coleopteran toxic strains of BT (1991, *Appl. Environ. Microbiol.* 57: 3337-3344), and new strains of *B. sphaericus* from Brazil (1992, *J. Invertebr. Pathol.*, in press).

In addition to BT and *B. sphaericus*, the laboratory has recently initiated studies of *Clostridium bifermentans* serovar *malaysia*, a newly discovered anaerobic bacterium pathogenic to mosquito and black fly larvae. The laboratory has published studies on isolation (1990, *C.R. Acad. Sc. Paris, ser. III*, 310:383-387), sporulation, inclusion bodies and insecticidal activity (1990, *Res. Microbiol.* 141: 721-733), and host range (1992, *J. Invertebr. Pathol.*, in press), and proteolytic inactivation of toxin (1990, *Appl. Microbiol. Biotechnol.* 34:36-41) in this new pathogen.

The Entomopathogenic Bacteria laboratory is a World Health Organization Collaborating Center for Reference and Research on Entomopathogenic *Bacillus*, and maintains a reference collection of almost 4000 strains of these bacteria for which a catalog is issued every two years.

Pasteur Institute was founded in 1887 by Pasteur himself, initially for production of rabies vaccine. Among the other outstanding contributions of this Institute are demonstration of mode of action of diphtheria and development of diphtheria antitoxin by Roux and Yersin, Metchnikoff's research on phagocytosis, identification of the plague bacillus by Yersin, demonstration of humoral immunity and complement by Bordet, discovery of the role of fleas in plague transmission (Simond) and of lice in typhus transmission (Nicolle), association of polio with a filterable virus, and in more recent years the work of Lwoff, Monod and Jacob which opened the door to modern molecular biology. Eight Pasteur Institute scientists have been awarded the Nobel Prize.

Address:

Entomopathogenic Bacteria Unit  
 Institut Pasteur  
 25 rue du Dr. Roux  
 75724 Paris cedex 15  
 FRANCE



THE ENTOMOPATHOGENIC BACTERIA UNIT  
 AT INSTITUT PASTEUR

Front row, L-R: L. Nicolas, J.-F. Charles, S. Hamon

Center row, L-R: H. Ripouteau, P. Laurent, V. Patricio, H. de Barjac,  
 -, E. Frachon.

Back row, L-R: I. Thiery, V. Cosmao Dumanoir, M.-F. Blanc.

SIP COMMITTEE REPORTS

FOUNDERS LECTURE COMMITTEE REPORT  
 1990-91

The Founders Lecture Committee is comprised of Bob Granados (Chairman), Clay McCoy, Tony Sweeney, and Richard Daoust. The entire committee met at the Adelaide, Australia meeting and there was strong support to recognize an insect nematologist at the Flagstaff meeting. After considerable discussion, it was unanimously decided to invite Dr. George O. Poinar from the University of California at Berkeley to present the 1991 Founders Lecture at Flagstaff, Arizona. Dr. Poinar will recognize the pioneering work of Dr. Rudolf Glaser.

Bob Granados has served on the Founders Lecture Committee since 1985 and will end his tenure at the Flagstaff meeting. Bob prepared a committee "working manual" which will assist future members of this committee.

The committee wishes to express their appreciation to Dr. John Briggs for his continuing support in the preparation of the certificate which is presented to the lecturer.

Robert R. Granados, Chairman

### MEMBERSHIP COMMITTEE REPORT 1990-91

A new SIP brochure and membership form was approved for use at last year's Council meeting. The brochure and membership form were distributed at several meetings last year including the Adelaide SIP meetings, the annual Entomological Society of America meetings, the S-135 meetings (working group on microbial control), *Bt* '91 meetings in Oxford, England and Biological Control in the Caribbean meetings.

To further increase membership, mailings including brochure, membership form and cover letter will go out at the end of the summer to all U.S. entomology departments, contributors to JIP who are not members of SIP, and to participants in recent insect and invertebrate pathology meetings held internationally whose mailing lists we have been able to obtain.

Plans for 1991-1992 include:

- a mailing/Newsletter announcement to encourage non-paying members to pay their dues;
- modify current brochure to incorporate some art (perhaps the Flagstaff meeting logo);
- identify non-U.S. participants for the SIP Membership Committee; Wendy Gelemter, Chair, Esther Peters, Lawrence Lacey.

### SITE SELECTION COMMITTEE REPORT 1990-91

The report of the SIP Site Selection Committee for 1990/91 consists of the following modification and updating of the 1989/90 report:

Year	Site	Host/Organizer
1992	Univ. of Heidelberg Heidelberg, Ger.	J. Huger/N. Becker D. Zimmermann W. Schnetter
1993	U. of North Carolina Asheville, N.C.	J. Harper W. Brooks
1994*	U. of Montpellier Montpellier, France	M. Bergoin/R. Frutos
1995	Cornell University Ithaca, New York	B. Granados/D. Roberts
1996	yet to be determined	

\*VI International Colloquium of Invertebrate Pathology

Note that the sites listed for 1993 and 1995 have been changed with respect to the report submitted last year. All future meetings are likely to take place in August or early September.

### ENDOWMENT COMMITTEE REPORT 1990-91

The committee nominated for endowed membership 14 invertebrate pathologists in 11 countries (Czechoslovakia, Yugoslavia, Hungary, Mexico, Liberia, Peoples Republic of China, Brazil, Romania, Turkey, Portugal, and Nigeria). Three new members were nominated and eleven continued as endowed members from last year. As in previous years, recipients have indicated that the memberships are very much appreciated. Each year the interest from the endowment enables gratis membership for several colleagues from soft currency countries. The memberships allow these colleagues to participate in the Society and, through the Newsletter, to be kept informed about the Society and invertebrate pathology in general. Your contributions to the endowment fund are encouraged in order to continue and expand this activity. If you know of an active pathologist in a soft currency country who would benefit from membership in SIP, please inform one of the endowment committee members.

L.A. Lacey, Chair  
E.W. Davidson  
R.R. Granados

### MINUTES OF THE 1991 DIVISION OF MICROBIAL CONTROL MEETING 5 AUGUST, 1991 FLAGSTAFF, ARIZONA

Dr. Mark Goettel called the meeting to order at 7:30 PM with approximately 40 members in attendance. Dr. Goettel reviewed the annual report of the division and then presented an update on the slide atlas and the directory of companies. A total of 325 slides were received, Dr. Goettel culled these to 245 for review by interested members. The SIP council approved expenditures of \$7,000 for 250 copies of a 200 slide set. Cost of the atlas will be determined later but the Division will keep the profits. Funding for the directory of companies, however, will come from the Division as the council would not approve up-front expenditures. Discussion ensued concerning availability of the atlas, who should pay, and who should get it free. It was suggested that Division members and participating

companies receive a free copy whereas others will pay a small fee.

Dr. Goettel reported that he was moderating a workshop and a symposium sponsored by the division.

Dr. Don Roberts reported that membership in the division stood at 287 as of July 31, 1991. At this point, it was suggested and unanimously approved by members in attendance to raise the dues of the division from \$1 to \$2 in order to be able to provide more services to the members.

Dr. Michael McGuire then took over as the new Chair of the Division. He expressed thanks to Dr. Goettel for the fine job he did in resurrecting the Division from one of inactivity to a very active organization. Dr. McGuire then presented a slate of candidates to the membership. They included Dr. Michael Klein as Chair-elect, Dr. Ann Hajek as Secretary-Treasurer, and Drs. Mark Goettel, Jane Drummond and Richard Daoust as Members-at-Large. It was moved, seconded, and approved that a fourth Member-at-Large be elected to get a better representation of the various pathogen groups on the executive committee. Dr. Ramon Georgis was nominated to this post. At this time all nominees were elected unanimously by a show of hands.

The rest of the meeting was spent discussing topics for symposia and workshops for next year's meeting. Symposia topics included (1) Standardization of Bt products; (2) Where we are, where we are going with Bt products in relation to IPM systems, new markets, etc.; (3) Microbial control of insects other than Lepidoptera and Orthoptera (e.g., leafhoppers). There was a general consensus that the first topic should be strongly considered and would be of interest to a wide range of groups including the Industrial Biotech Association who may be approached to provide support. Workshop topics included (1) Bioassay methods and analysis and (2) Artificial light sources, measurement and how they effect microbial control agents. Suggestions may be forwarded to the executive committee.

The meeting was adjourned at 8:45 PM with some members remaining to view the slide atlas.

#### MICROSPORIDIA DIVISION BALLOT

Ballots were mailed to all current members of the Microsporidia Division requesting permission to raise dues for the Division from \$1 to \$2 per year. Because the amount of the dues is included in the By-Laws of the Division, revision of the By-Laws was required. 110 ballots were mailed and 43 were returned. All votes were in favor of increase of Division dues to \$2 per year. Albert H. Undeen, Secretary of the Microsporidia Division.

#### REPORT OF THE COMMISSION ON INVERTEBRATE PATHOLOGY IN THE INTERNATIONAL UNION OF BIOLOGICAL SCIENCES JOHN D. BRIGGS INTERIM REPRESENTATIVE FOR THE SOCIETY FOR INVERTEBRATE PATHOLOGY

The Society for Invertebrate Pathology serves as the Commission on Invertebrate Pathology in the International Union of Biological Sciences (IUBS). Annually, as the interim representative for the Commission, I advise the IUBS concerning the activities of the SIP which serves as the Commission.

One of the material elements which is useful to ICSU, IUBS and the organizations with interests in common with the SIP, is the availability of the Directory of Invertebrate Pathologists. The current Directory for Invertebrate Pathology was published in 1986. Of the 1,000 copies of the 1986 edition of the SIP Directory, 351 remain on hand to fill occasional orders. Checks sent to me for Directory purchases are forwarded to the Society Treasurer.

In the early years of our affiliation, the SIP benefitted from a grant and a loan of funds to facilitate the organization of two International Colloquia on Invertebrate Pathology. Further, the IUBS, through the International Council of Scientific Unions is a conspicuous force in supporting the unencumbered passage of individuals to meetings abroad, when particular citizens were not otherwise issued visas or passports respected in host countries. As the opportunities for financial support have been eliminated and the need has been reduced for assuring the passage of scientists from one country to the other, the affiliation of the SIP with the IUBS is fertile ground for new opportunities for participation of the SIP in international affairs.

#### RESULTS OF SIP 5K RUN

August 8, 1991

Flagstaff, AZ

Women		Men (40 and over)
1.Susanne Vestergaar	23:49	1.George Soares 22:04
2.Judi Miko	32:56	2.Steven Foss 23:32
3.Luci Anderson	33:15	3.Albert Undeen 24:49
Men (39 and under)		Women's 5 K Walk
1.Patrick Patterson	20:35	1.Ann Cali 47:38
2.James Becnel	25:35	2.Daphne Pham 48:09
3.Koen Hendrickx	26:54	





Almost on the mark for the 5K run.



Jim Becnel displays his 5K race award, a marble paperweight.

#### STUDENT PAPER AWARDS FOR 1991

The judging committee, chaired by John D. Briggs, had a difficult time again this year in deciding upon the best student paper and the best student poster among the fine entries at the 1991 meeting in Flagstaff, Arizona. The winner of the oral paper contest was **Andreas Linde** of the Lehrstuhl für Angewandte Zoologie, Ludwig-Maximilians-Universität, Munich, Germany for his paper entitled "Entomoparasitic microsporidia- ultrastructure of host cell invasion". **Coreen Oei** of the Institute of Molecular and Cell Biology, National University of Singapore, won the poster contest with her poster entitled "Binding and interaction of the Bacillus sphaericus 51- and 42-kDa toxins

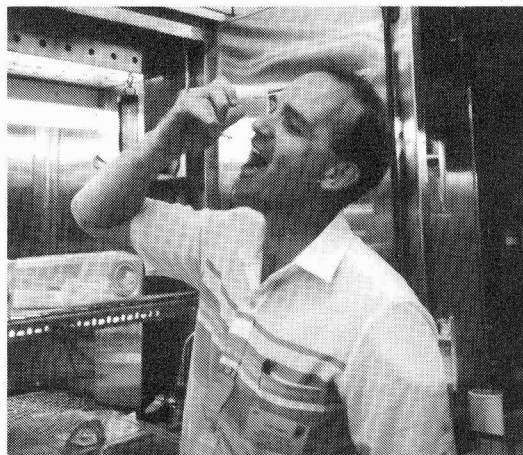
and their deletion derivatives on the larval gut of Culex quinquefasciatus". The winners were presented with engraved plaques. Congratulations to these fine students!



Left: Andreas Linde with his student paper award. Right: Coreen Oei, poster award winner, and her colleague Colin Berry from the National University of Singapore.

#### CONGRATULATIONS!

**Brian A. Federici**, Professor of Entomology at the University of California at Riverside, received the Distinguished Award in Teaching from the Entomological Society of America at its recent meeting in Reno, Nevada. Brian was cited for bringing his extensive travel experiences into the classroom to demonstrate the impact insects have on the economic and medical well-being of mankind. He also uses living insects, such as the silkworm, in his classes. Brian has served SIP as Trustee, on the JIP Editorial Board, and convened the 1988 Annual Meeting in San Diego.



Brian Federici demonstrates his technique for interesting students in Entomology. (Photo taken at the 1985 SIP meeting in Sault Ste. Marie, Ontario.)

## PUBLICATIONS FOR SALE

Extra copies of the SIP Program and Abstracts for 1991 are still available for the cost of mailing, \$2.50 US or abroad (surface). Copies of the 1990 Proceedings of the International Colloquium for Invertebrate Pathology (Adelaide, Australia) are also available at the cost of \$50 Australian (\$45 US). This publication is a fine addition to your personal or institutional library. These publications can be obtained from:

(Program or Proceedings) Elizabeth W. Davidson, Department of Zoology, Arizona State University, Tempe, AZ 85287-1501 USA.

(Proceedings only) Dudley Pinnock, Department of Entomology, Waite Agricultural Institute, University of Adelaide, Glen Osmond, South Australia, Australia 5064.

Send your order to the location nearest you; make check (in US funds) or international money order in US funds payable to Society for Invertebrate Pathology.

## Welcome New Members!

Hiroaki Abe  
Lab of Insect Physiol & Pathol  
Tokyo Univ of Agric & Technol  
Faculty of Agriculture  
Fuchu Tokyo  
JAPAN

Francisco Badilla  
Apartado 2330 - 1000  
San Jose, Costa Rica  
CENTRAL AMERICA

Ellen A. M. Beerling  
Dept of Pure & Applied Ecology  
Univ of Amsterdam  
Kruislaan 302  
Amsterdam 1098 SM  
NETHERLANDS

Johannes A.J. Breeuwer  
Dept of Biology  
Univ of Rochester  
Rochester, NY 14627

Johan Cardoen  
Plant Genetic Systems  
J. Plateastraat 22  
Gent 9000  
BELGIUM

Sudawan Chaeychomsri  
Lab of Sericultural Science  
Nagoya Univ  
Chikusa Nagoya 464 - 01  
JAPAN

Hosun Cheong  
Dept of Microbiology  
Arizona State Univ  
Tempe, AZ 85287

Liwang Cui  
P.O. Box 451, UL. Griboya  
Kishinev, Moldova 277049

Amy S. Downing  
ChemLawn  
135 Winter Road  
Delaware, OH 43015

Scott Ferguson  
Ciba-Geigy Corp  
7145 58th Ave  
Vero Beach, FL 32967

Mirielle Fouillaud  
1 Rue Theresieu Cadet Res  
Pierre & Sable - Appt 30  
Ste Clothilde - La Reunion 974  
FRANCE

David C. Frank  
Boyce Thompson Institute  
Cornell Univ  
Tower Road  
Ithaca, NY 14853-1801

Sumumu Fushimi  
Sumitomo Chemical Co., Ltd.  
Takarazuka Research Center  
2-1, 4-Chrome Takatsukasa  
Takarazuka, Hyogo 665  
JAPAN

Lynn Gallo  
14 Dug Road  
Lansing, NY 14882

Alejandra Garcia-Canedo  
Entomol Dept  
Univ of Florida  
970 Hull Road  
Gainesville, FL

Albert C. Gilloti  
Dept of Entomology  
Univ of Maryland  
1300 Symons Hall  
College Park, MD 20742

Peter W. Gothro  
Dept of Entomol &  
Applied Ecol  
248 Townsend Hall  
Newark, DE 19717-0313

Chie Goto  
National Agriculture  
Res. Center  
Kannondai  
Tsukuba Ibaraki 305  
JAPAN

Kenneth J. Grace  
Dept of Entomology  
Univ of Hawaii  
3050 Maile Way, Room 310  
Honolulu, HI 96822

Robert E. Harrison  
Coop. Agric. Research Program  
Tennessee State Univ  
3500 John A Merritt Blvd  
Nashville, TN 37209-1561

Shi-Yih Hung  
Dept of Entomology &  
Nematology  
Univ of Florida  
Bldg 970 - Hull Road  
Gainesville, FL 32611-0740

Tomoko Kawasaki  
Tsurugashima Branch  
Saitama Horticultural Exp. Sta.  
405 - 12 Mizuno Sayama  
Saitama 350 - 13  
JAPAN

Pandelakis A. Koni  
Dept. of Biochemistry  
Cambridge Univ.  
Tennis Court Road  
Cambridge CB2 1QW UK

Chiaki Koyama  
Gumma Sericultural Exp. Station  
2326-2 Soja Soja Machi  
Maebashi Gumma 370-35 JAPAN

Jacobus Martin Laubscher  
Elsenburg Agric. Devel. Inst.  
Private Bag  
Elsenburg, Cape Province 7607  
SOUTH AFRICA

Ronald C. Lundquist  
Plant Science Research, Inc.  
10320 Bran Road East  
Minnetonka, MN 55343

Carla Mendes  
Departamento de Biologia  
Universidade des Acores  
9502 Ponta Delgada  
Sao Miguel, Acores  
PORTUGAL

Julie D. Merrick  
Dept. of Biochemistry  
Cambridge Univ.  
Tennis Court Road  
Cambridge CB2 1QW UK

Ross E. Milne  
Forest Pest Management Inst.  
1219 Queen Street E  
Sault St Marie, Ontario  
P6A 5M7 CANADA

Xinzhi Ni  
Dept. of Entomology  
University of Missouri  
Columbia, MO 65211

Armand Paraiso  
IITA/BCP  
B.P. 08-0932  
Cotorou BENIN

Daphne Pham  
Dept. Entomology  
University California  
Riverside, CA 92521

Nicholas D. Pipe  
Biosphere Science Div.  
King's College London  
Atkins Buildings-Campden Hill  
London W8 7AH UK

Amy Plato  
Bactec Corporation  
9601 Katy Freeway,  
Suite 350  
Houston, TX 77024

Svetlana R'ibina  
UL. Fed'ko, 59/3, Kb. 28  
Kishinev, Moldova 277060

Leopoldo Rueda  
CARP  
Tennessee State Univ.  
3500 John A. Merritt Blvd.  
Nashville, TN 37209-1561

Kenji Sato  
Rohzu Haitu 201  
5-37-12 Asahi-chou Atsugi-Shi  
Kanagawa-ken 243  
JAPAN  
Raymond St. Leger  
Boyce Thompson Institute  
Cornell University  
Tower Road  
Ithaca, NY 14853-1801

Masahiro Tomita  
Dept. Chemistry for Materials  
Mie Univ. Fac. of Engineering  
1515 Kamihama-cho Tsu  
Mie 514  
JAPAN

Dominique Trudeau  
130 Rue Richelieu  
Quebec G1R 1J5  
CANADA

Susanne Vestergaard  
Stefansgade 14.4th  
Kobenhavn N. 2200  
DENMARK

Mary Welton  
Forest Pest Mgmt. Inst.  
PO Box 490  
Sault St. Marie,  
Ontario P6A 5M7 CANADA

Guan Xiong  
Dept. of Plant Protection  
Fujian Agricultural College  
Fuzhou, Fujian 350002  
PRC

Jinhua Xu  
Lab Insect Physiol. & Pathol.  
Tokyo Univ. of Agric. & Techn.  
Fuch Tokyo 183  
JAPAN

Newsletter Editor:

Dr. Elizabeth W. Davidson  
Department of Zoology  
Arizona State University  
Tempe, AZ 85287-1501  
Phone: 602-965-7560  
FAX: 602-965-2012  
Bitnet: ATEWD @ ASUACAD

Assistant Newsletter Editor:

Dr. Mark Goettel  
Agriculture Canada Research Station  
Box 3000, Main  
Lethbridge, Alberta  
T1J 4B1 CANADA  
Phone: 403-327-4561  
FAX: 403-382-3156

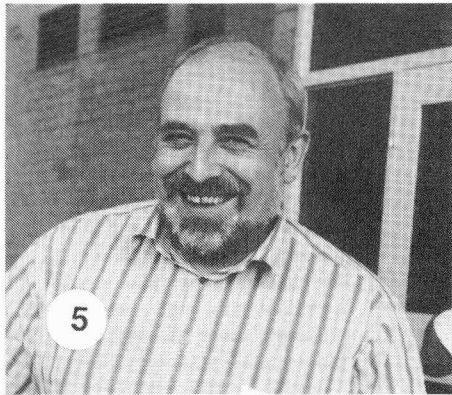
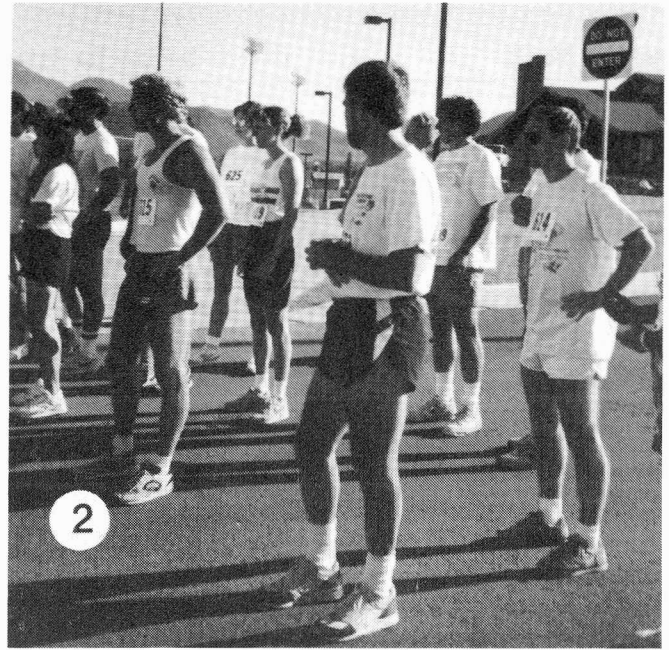
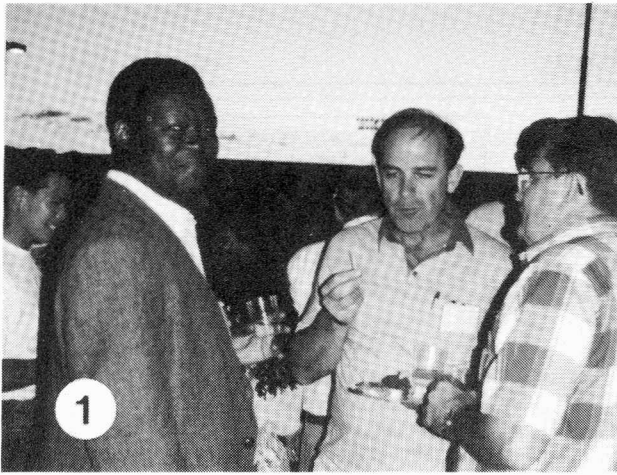
FASEB:

Federation of American Societies for  
Experimental Biology  
9650 Rockville Pike  
Bethesda, MD 20814  
Attn: Debbie Stoutamire  
Phone: 301-530-7120  
FAX: 301-530-7049

**REMINDER!**

**Mail your 1992 Ballot immediately, if you have not already done so. In addition to selection of the Officers of the Society, this ballot contains the very important issue of a dues increase. In case you have lost the envelopes, the ballot should be sealed in an inner, unmarked envelope, which should then be placed inside an outer envelope WHICH BEARS YOUR RETURN ADDRESS, and mailed to:**

**Dr. James Harper  
Department of  
Entomology  
North Carolina State  
University  
Raleigh, NC 27695-7613  
USA.**



1. G. Kaaya, B. Federici and J. Couch; 2. Start of the 5K race; 3. John and Debbie Harshbarger; 4. Entertainment aboard the Grand Canyon Railway steam train; 5. C. Payne; 6. J. Margalit, P. Luethy, D. Ellar and S. Gill after the BTI Symposium; 7. T. Iizuka and members from P.R. China at the Banquet.

# SOCIETY FOR INVERTEBRATE PATHOLOGY

The Commission on Invertebrate Pathology in the International Union of Biological Sciences

February 4, 1992

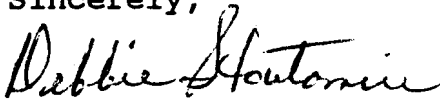
Dear SIP members:

Several days ago, the office of the Society for Invertebrate Pathology mailed January's newsletter to its members. However, registration forms and instructions to authors were not included.

Enclosed you will find both the registration forms and instructions to authors.

Please contact the Society Office if you are missing any of the aforementioned items. (301) 530-7120, FAX (301) 530-7049.

Sincerely,



Debbie Stoutamire  
Society Office

---

## COUNCIL OFFICERS

<i>President</i> Elizabeth W. Davidson Department of Zoology Arizona State University Tempe, Arizona 85287 USA Telephone: (602) 965-7560	<i>Vice-President</i> Christopher C. Payne Chief Executive, BSHR AFRC, Institute of Horticultural Research Wellesbourne Warwick CV35 9EF ENGLAND Telephone: (0789) 470382	<i>Past President</i> Donald W. Roberts Insect Pathology Resource Center Boyce Thompson Institute Cornell University Ithaca, New York 14853 USA Telephone: (607) 254-1352	<i>Secretary</i> Lawrence A. Lacey United States Department of Agriculture USFORAZ (AZORES) Box 194 APO New York, NY 09406 USA	<i>Treasurer</i> Charles Reichelderfer (deceased) <i>Acting Treasurer</i> Donald W. Roberts Insect Pathology Resource Center Boyce Thompson Institute Cornell University Ithaca, New York 14853 USA Telephone: (607) 254-1352	<i>Trustees</i> Peter Faulkner, Canada Dudley Pinnock, Australia George Soanes, USA Toshiniko Iizuka, Japan
---	--	--	--	--	---

**SOCIETY FOR INVERTEBRATE PATHOLOGY  
XXV ANNUAL MEETING, HEIDELBERG, GERMANY  
August 16 - 21, 1992**

**REGISTRATION FORM  
(Please use BLOCK LETTERS)**

Name: ..... Title: .....  
 First Name(s): .....  
 Affiliation: .....  
 Postal Address: .....  
 .....  
 State: ..... Zip/Post Code: .....  
 Country: ..... Phone N<sup>o</sup>: (.....)

I am a member of SIP:       yes       no

I am a full-time student at: .....  
 .....  
 Student I/D N<sup>o</sup>: .....

Name of accompanying person: ..... Title: .....

**Registration Fee - if paid by June 30, 1992:**

	Regular Member	-	\$	150.00
	Student	-	\$	95.00
	Non-Member	-	\$	175.00
	Companion	-	\$	75.00
	5K Runner (with T-shirt)	-	\$	15.00
	Late Fee (after June 30)	-	\$	45.00
<b>Banquet:</b>	Number of Persons: .... ( \$ 35.00 each)	-	\$	.00
<b>Mixer:</b>	Number of Persons: .... (included in registration fee)			—
<b>Boat trip:</b>	Number of Persons: .... (included in registration fee)			—
<b>TOTAL AMOUNT ENCLOSED / REMITTED</b>				<b>\$ <u>          .00</u></b>

**Please remit amount to:**

"S.I.P. Congress, 1992"  
 Account N<sup>o</sup>.2626  
 Kreissparkasse Ludwigshafen/Rh.  
 D-6700 Ludwigshafen, Germany

or make cheque or money order payable to:      "S.I.P.-Congress 1992"

**Please return this form with full payment to:**

S.I.P.-Congress  
 KABS, Kreisverwaltung Ludwigshafen  
 Europaplatz 5  
 P.O. Box 210 780  
 D-6700 Ludwigshafen, Germany

## INSTRUCTIONS TO AUTHORS

The Abstracts of the Annual Meeting of the Society for Invertebrate Pathology will be prepared by direct reproduction of the abstract submitted by each author. There will be no editing of the author's copy. Thus, every error which appears in the submitted abstract will also appear in the printed Abstracts. Please use the following procedure for the preparation of the abstract. If intended as a Poster presentation, please type "POSTER SESSION" at the bottom middle of the abstract.

If you are a student and wish your paper to be entered in the "BEST PAPER BY A STUDENT" contest (\$ 200.00 prize), please indicate this in a separate letter to accompany the abstract and type "STUDENT PAPER" at the bottom middle of the abstract. To be eligible for the prize, the paper must be presented by the student. The student need not be sole author, but must be the senior author.

1. Use a (electric) typewriter with a carbon ribbon or a personal computer with daisywheel or preferably laser-printer. Alternatively use a new cotton- or silkribbon for your typewriter or printer.
2. **Typewriter:** Place the enclosed abstract template under a blank typing sheet and insert in the typewriter. The dark lines will show through the usual grades of paper.  
**PC:** Note top, left and bottom margins of 2 cm, respectively, and a maximum length of the lines of 18.3 cm as indicated on the template.
3. Type the **title in bold face** and the **author(s) in capital letters**. Single space all typing. The title, authorship and text must be within the boxes as outlined on the template. Leave no top or left margin within the boxes. **Type only within the space outlined in the template.**
4. The Style Manual for Biological Journals, published by the American Institute of Biological Sciences, should be used as a guide to abbreviations and symbols. Proprietary and trade names must be accompanied, at first mention, by the established or generic names. When using abbreviations for compounds, the name must be spelled out in full at the first mention.
5. **REMEMBER!** Your abstract will be printed exactly as submitted. Any smudges, errors and misspellings on your copy will also be evident in the printed Abstracts.
6. Poorly typed and improperly prepared abstracts, unsuitable for direct reproduction, will not be printed! Because of the various deadlines there will be no time for returning the abstracts to authors for retyping. Therefore, please follow the instructions closely.
7. Send your abstract so as to reach the following address no later than April 1, 1992:  
  
Dr. Gisbert ZIMMERMANN  
Institute for Biological Control  
Heinrichstr. 243  
D-W-6100 Darmstadt  
GERMANY
8. Enclose a self-addressed envelope with your abstract if you wish acknowledgement of the receipt of the abstract.